

AISOS

A Reproducible Model for Institution-Wide 3D Imaging

Samantha Porter, Colin McFadden
LATIS, College of Liberal Arts
University of Minnesota



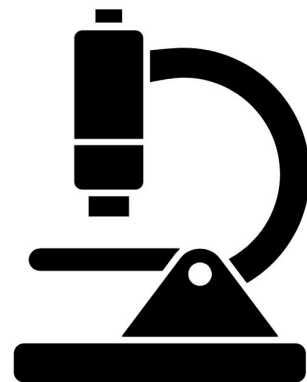
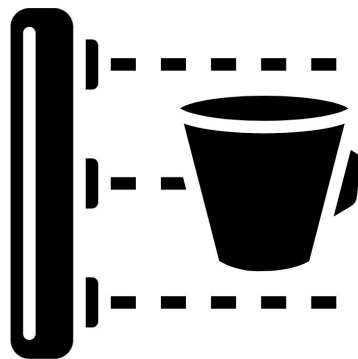
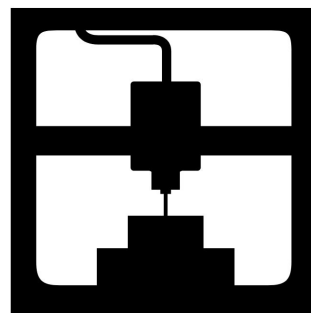
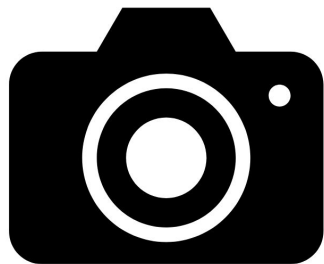
UNIVERSITY OF MINNESOTA

Driven to DiscoverSM

Talk Outline

- Who / what are we?
- What types of projects do we support?
- How do we our run / promote our space?
- How would you go about starting a space yourself?

Advanced Imaging Service for Objects and Spaces





What does AISOS offer?

Technology

- Automated Photogrammetry
- Full body Photogrammetry
- GigaMacro
- Reflectance Transformation Imaging
- Portable Structured Light
- Fixed Structured Light
- LIDAR
- Digital microscopy
- Aerial photogrammetry
- Virtual Reality

**Service &
Support**

**Are you sure you're
not a makerspace?**

Maker-type Spaces on Campus

A photograph of a workshop space with various tools and equipment. A large table in the foreground has various items on it, including a blue container and some tools. In the background, there's a machine labeled 'MKS SERVOT ROUTER'.

XYZ Lab
Art

A photograph of a large, open-plan space filled with people. They are standing around tables, some of which have equipment on them. The space appears to be a collaborative workspace or a lab.

Anderson
Innovation Labs
CSE

A photograph of a workspace with a desk, a laptop, and some equipment. There's a yellow chair and a black chair. The space looks like a studio or a lab.

eStudio
Art

A photograph of a workspace with a desk, a laptop, and some equipment. There's a whiteboard in the background. The space looks like a library or a study area.

Breaker Space
Libraries

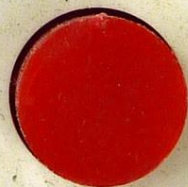
How are we different?

- Not focused on fabrication
 - We help make files for you to bring to a makerspace
- Students /faculty may come in with less familiarity with the tech
- There may be a steeper learning curve to get into the tech

What is our mission?

1. Remove fear of technology
2. Enable diverse applications of emerging technology
3. Expose faculty and students to emerging technology

PANIC
BUTTON



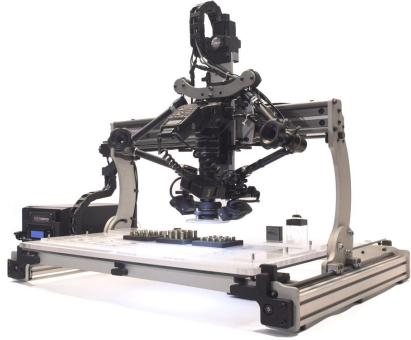
Types of Projects:

1. Research
2. Creativity
3. Outreach

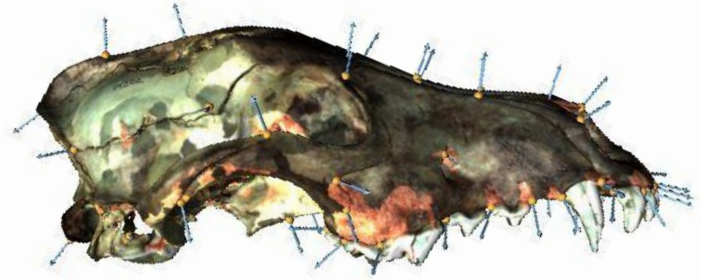
sketchfab.com/aisos

Research

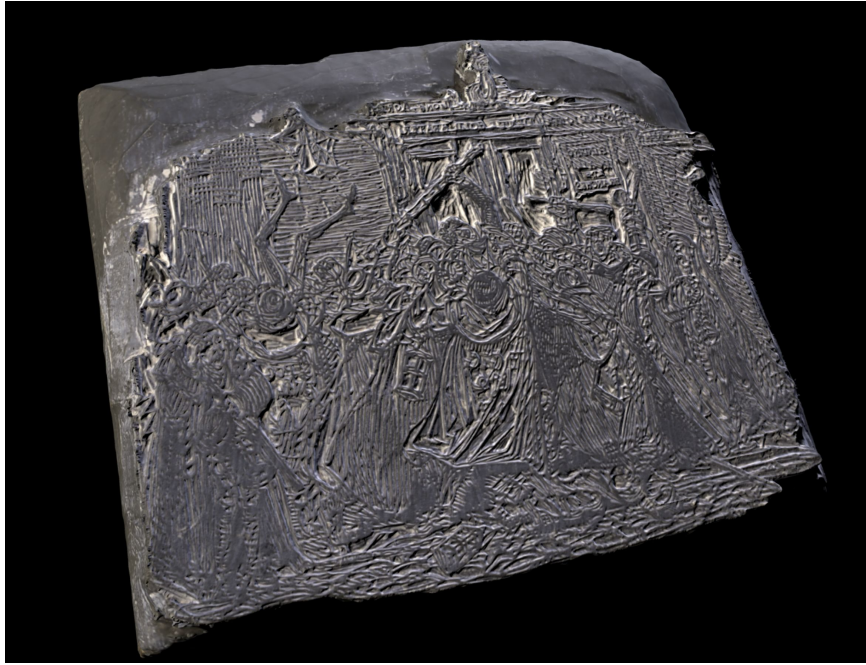
Dendrochronology (Geography)



Wolf Hybrid Study (DNR)



Wood Block Prints (English)



Creativity

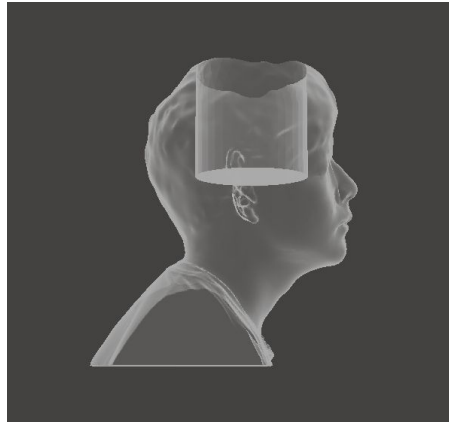
Presenting Work

Sandjock Likinè



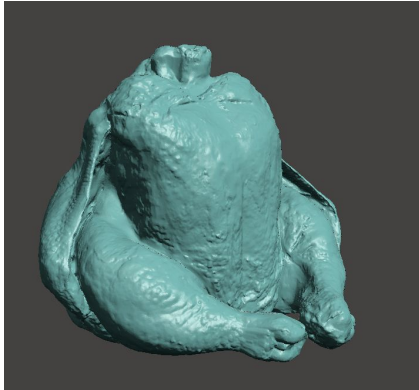
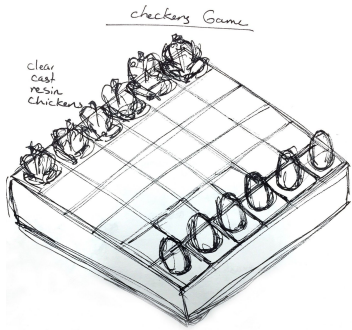
Body Scanning

Nels Shafer and Felix Oh



Playing with Scale

Katayoun Amjadi



Outreach

Augmented Reality Mini Golf



Fort Snelling in VR (Anthropology)



Duplicating AISOS

Cost \neq Success





Be
Disproportionate

There's no “flip camera and iMovie” for 3D

Build it and they will come...



Build it and they will come...



How do we support the space?

- Ensure that staff have enough time to devote to both managing the space and gaining proficiency in the tech
- Ensure users that they don't need any knowledge coming in - only an idea!

How do we get the word out?

- Reach out and partner with faculty
- Give tours to specific classes to attract students (and their friends)
- Reach out to other institutions on campus

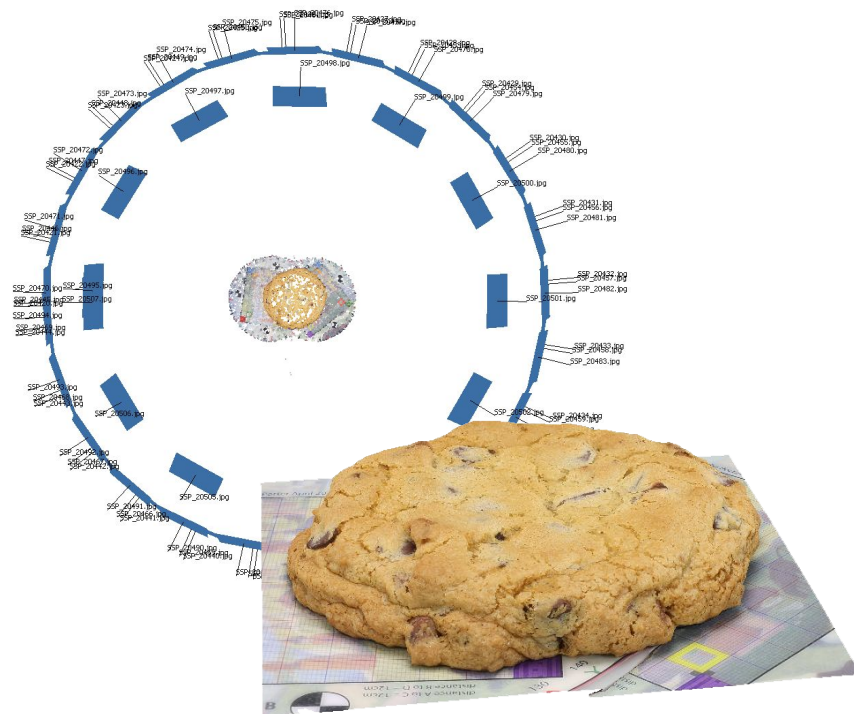
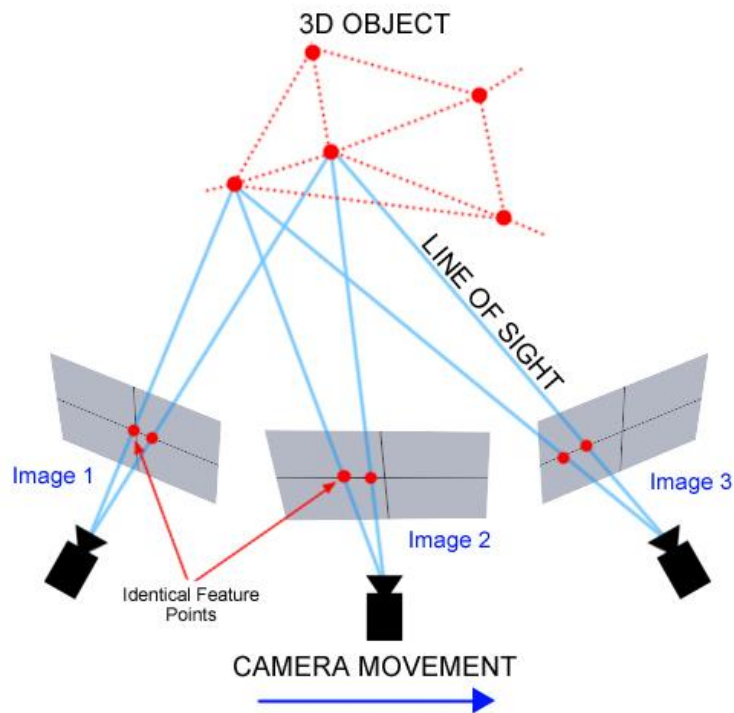
OK + Time = Great

I'm sold, let's do this.

Getting Started

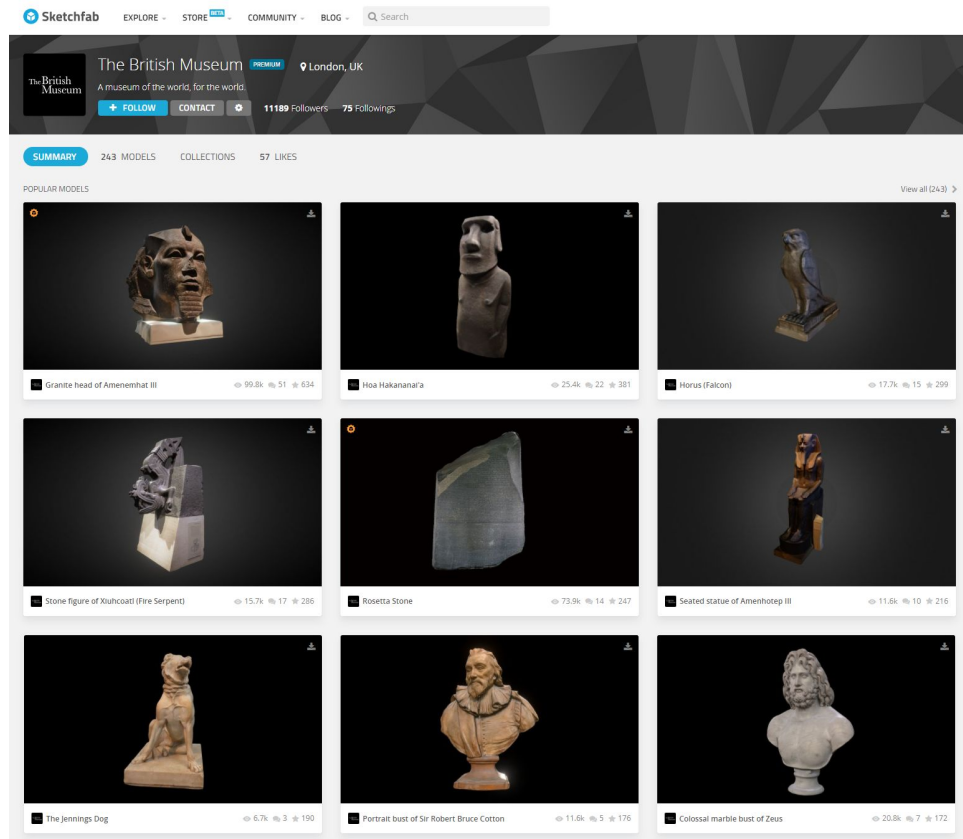
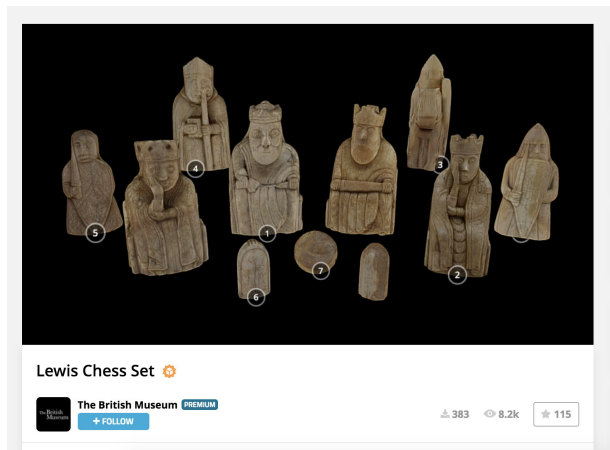
1. Experiment with Photogrammetry in Agisoft PhotoScan
2. Share your content on Sketchfab, add annotations
3. Get familiar with the wider technology landscape (but don't spend any money yet)
4. Explore the other possibilities

1. Experiment with Photogrammetry



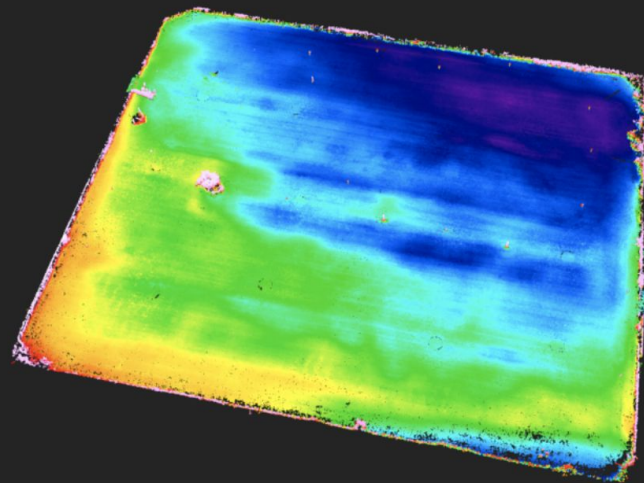
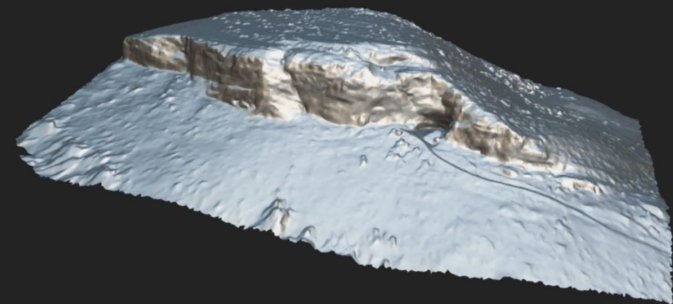
2. Share Your Content on SketchFab

- Treat Sketchfab like YouTube
- Support animations, VR, annotations, and much more
- Great options for education



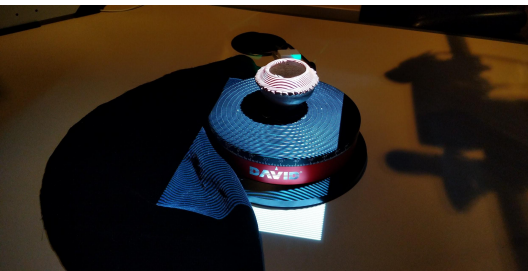
3. Learn the Landscape

- Automated Photogrammetry
- Full body Photogrammetry
- GigaMacro
- Reflectance Transformation Imaging
- Portable Structured Light
- Fixed Structured Light
- LIDAR
- Digital microscopy
- Aerial photogrammetry
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4. Explore the possibilities

- 3D printing
- Gaming
- VR
- AR
- Online exhibitions
- Simulations
- Preservation
- Reconstruction
- Inquiry
- Documentation



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Thank you!



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